

THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States,
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No.2

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR APRIL, 1923.

In reviewing the general entomological data accumulated by the Survey during 1921 and 1922 and comparing these with the data so far received this year, it appears that the entomological season is about two weeks later than normal.

From present reports the indications are that the Hessian fly will not be a serious factor in this year's wheat crop over most of the important wheat-growing regions.

The chinch bug is still a threatening factor in the Ohio River region and in the Upper Mississippi Valley, the bugs having passed the winter successfully as far north as southeastern South Dakota.

The Great Plains false wireworm is again proving a serious pest in western Nebraska.

A telegraphic report has been received of a large brood of Mormon crickets now hatching in north-central Wyoming.

The codling moth wintered well in New York and Washington, despite the cold winter, which killed over 25 per cent of the larvae which were above the snow-line in the latter State.

Eggs of the several apple aphids were hatching as early as March 30 in the Ozark region of Arkansas; April 7 in southern Idaho; April 9 in Indiana; and April 20 in western New York.

Infestation of the fruit-tree leaf-roller is rapidly increasing in Idaho. This year the egg count indicates an increase of 300 per cent over last year's infestation.

The San Jose scale continues to be a serious factor in apple orcharding in New York, New England, and the Ohio River States. In Indiana the region of serious infestation is extending into the northern part of the State. This insect is also a very serious pest in northwestern Arkansas.

The pea aphid is seriously infesting the entire cannery pea section in Stanislaus County of California and a lighter infestation extends over the Santa Clara Valley. This insect is also doing considerable damage to alfalfa in the vicinity of Topeka, Kans. The Kansas infestation

is over a region where the growing of garden peas is rather extensive. Here the association of alfalfa and peas is suggested as being favorable for the multiplication of this insect. Aphid infestations were so serious in the Santa Clara Valley on spinach that seven canneries ceased canning this product this spring. The damage was not so much the infestation of the aphids as the presence of such enormous numbers of syrphid larvae that it was not possible to remove them from the spinach in the washing process.

Bruce's measuring worm is reported for the first time as being present in the Okanogan Valley of Washington State.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR APRIL, 1923.

The spring in Canada is backward in most parts of the Dominion, with the exception of British Columbia, where the season is from two to three weeks in advance of last year. In parts of the Prairie Provinces it is expected that the farmers will be able to do very little work in the fields until about the first of May. In Quebec and the Maritime Provinces the spring is about two weeks later than last year. Unusually cold weather with much snow was experienced in Ontario during the first two weeks of April, but towards the end of the month a warm spell occurred and spring ploughing will be general by the first of May.

The pea weevil has shown an increase in numbers in certain sections of Ontario, during the past two years. In British Columbia this insect is reported from several sections which were previously uninfested. The latest report is from Lillooet, B. C., where there is a serious infestation of this insect.

The striped cucumber beetle is becoming more prevalent in the Prairie Provinces. In Manitoba in 1922 it was common throughout the southern sections from Melite to Winnipeg.

The roadside grasshopper, Carmula pellucida Scudder, outbreak which occurred over an area of 3000 square miles of cattle range in the neighborhood of the Nicola Valley, B. C., in 1922, and which was probably the worst outbreak in the history of the province, is expected to re-occur this year over the same area but in a very mild form. It is feared, however, that some of the largest dry-farming sections will suffer severely.

The sugar-beet root aphid, Pamphirus betae Doane, is judged by conditions as becoming increasingly prevalent on mangels in the Lower Fraser Valley, British Columbia.

The western wheat-stem sawfly, Cephus cinctus Nort. is overwintering in large numbers in the Prairie Provinces. Indications point to severe damage during the coming year.

The Colorado potato beetle has experienced favorable winter conditions in the Prairie Provinces and everywhere is expected to emerge from its winter quarters the last two weeks of May.

The nose bot-fly, Gastrophilus veterinus Clark, is yearly assuming more importance in the Prairie Provinces and its distribution appears to be general.

The Hessian fly will cause loss in Manitoba it is feared. The area of infestation will doubtless occur in the territory north of the Canadian Pacific Railway line in areas of the greatest rainfall.

The eastern spruce bark-beetle, Dendroctonus piceaperda Kirby, has been active in two localities in Canada during the past few years. An outbreak of increased proportions is anticipated this year in the Gaspé Peninsula, in Quebec Province, due to the last year's brood concentrating on the weakened trees of a large burn. The Porcupine mountain outbreak in Saskatchewan almost completely died out last year and is not expected to cause any trouble this year.

The European corn borer wintered successfully in Ontario, the very low mortality of 3 per cent being recorded in overwintering experiments.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois W. P. Flint (April 20): Adults of the Hessian fly have not yet been found in the fields.

Indiana J. J. Davis (April 20): The Hessian fly is not abundant. Sowing at the right time has doubtless been effective in keeping down the Hessian fly in the northern half of Indiana. A late wave last fall is responsible for some fly infestation in southern Indiana. In Adams County in the northeastern part of the State we examined last fall (November 22) several fields sowed on different dates, scattered over the county. The results of these counts were as follows:

Date sowed	Result of count
Aug-29	Infestation too heavy for definite count
Sept.10	68.5 per cent of plants infested
12	33.8 per cent of plants infested
15	38.7 per cent of plants infested
23	26.6 per cent of plants infested
25	11.5 per cent of plants infested
27	1 per cent of plants infested
Oct.1-10	0 per cent of plants infested

The fly-free date in the section of the county visited in September 26. The plants were not heavily infested, as the fly was comparatively scarce last fall.

In some counties of the State occasional early-sown wheat fields are to be found and these are invariably more or less heavily infested with the Hessian fly. Our five sowing plats gave the following fly infestation last fall.

Wanatah, Ind.		Theoretical fly-free date September 22
Date sown:	Date of count :	Plants infested
		Per cent
1922 :	1922 :	
Sept. 11 :	Dec. 2 :	53
14 :	2 :	50
17 :	2 :	20
20 :	2 :	9
23 :	2 :	0
27 :	2 :	0
Auburn, Ind.		Theoretical fly-free date September 22
Sept. 15 :	Nov. 23 :	42
19 :	23 :	24
22 :	23 :	1
26 :	23 :	0
Oct. 2 :	23 :	0
Portland, Ind.		Theoretical fly-free date September 27
Sept. 13 :	Nov. 21 :	63
18 :	21 :	50
23 :	21 :	7
27 :	21 :	0
Oct. 2 :	21 :	0
9 :	21 :	0
14 :	21 :	0
Lafayette, Ind.		Theoretical fly-free date, September 27
Sept. 13 :	Nov. :	1
19 :	Nov. :	0
27 :	Nov. ;	0
Oct. 2 :	Nov. :	0
18 :	Nov. :	0
Terre Haute, Ind.		Theoretical fly-free date, October 2
Sept. 16 :	Oct. 28 :	23
23 :	28 :	9
30 :	28 :	0
Oct. 2 :	28 :	0
5 :	28 :	0
12 :	28 :	0
19 :	28 :	0

Missouri A. F. Satterthwait (April 10): No deposition of eggs. Pupation is just beginning within the flaxseed in St. Louis County. The abundance is greatly reduced from the fall of 1921.

R. C. Lange (April 11): Volunteer wheat in Franklin County is 100 per cent infested, and crop wheat is nearly as badly infested. This locality shows the heaviest infestation found in the St. Louis County neighborhood. Pupation is just beginning.

CHINCH BUG (Blissus leucopterus Say)

Indiana J. J. Davis (April 20): We anticipate heavy infestations in a larger section of the State than last year. The center of infestation has moved northward. All counties in the northern half of the State are more or less infested. Bugs were active but not flying a few weeks ago. To date none have been observed flying from winter quarters.

South Dakota H. C. Severin (April 7): Infestations exist in Bon Homme, Douglas, and Charles Mix Counties. The bugs came through the winter in good condition.

YELLOW-SUGAR-CANE APHID (Sirha flava Forbes)

Texas E. E. Russell (April 11): At Gainesville conditions are very different with regard to Sirha flava, for this pest occurs in from 50 to 75 per cent of the fields in this section. Often the colonies are very small, then again they get to be of good size, some of them affecting from 15 to 25 acres. While the grain is not so completely killed, as in the case of Toxoptera work, the stand is ruined in many cases and the remaining plants are spindling and sickly looking. In two fields of fall-sown wheat, about 100 acres, which were examined on Friday of last week, large colonies averaging from 15 to 20 feet in diameter occurred every few yards over the entire area. It would be safe to say that at least 50 per cent of the crop had already been injured, but the most discouraging thing in this connection is the fact that the parasites, except ladybugs, do not appear to be making much headway. I have never found more than 5 per cent to have been attacked by the true parasites, and in my examination of the two fields just mentioned I was not able to find a single one parasitized.

GREENBUG (Toxoptera graminum Rond.)

Kansas G. A. Dean (April 17): Reporters who have been in south-central Kansas, looking into the greenbug situation, report that they have the farmers fairly well organized for plowing under the infested spots. In fact, many of the spots were plowed under before they left that part of the State. The

weather reports are for winter, and if the weather conditions are favorable for good plant growth, and also for the increase of the predacious and parasitic enemies, I believe the greenbug has done all the injury it will do.

S. J. Hunter (April 20): On April 10 we received from Crystal Springs, in Harper County, a package of wheat infested with greenbugs. Mr. Beamer of this Department returned yesterday from that region and reports one 40 acre field infested with greenbugs, with a few dead spots appearing in the field. He found no hymenopterous parasites, but an abundance of ladybirds. He reports from 8 to 10 coccinellid larvae in 3 inches of drill row. In his judgment these predacious insects will prove more effective than any remedial measures we could institute. After an extended survey through Harper County he found only one other field of wheat in which they were present in appreciable numbers. The wheat is in an excellent condition, and, in his judgment, there will be no material loss.

Texas

E. E. Russell and C. E. Gable (April 20): In Wichita, Archer, Young, and Parker Counties a number of colonies of Toxoptera were developed. These spread to some extent and threatened some injury. At this time, however, parasites have practically exterminated the older colonies, and the new infestations are being so effectively controlled that little damage is anticipated, and the farmers, in general, feel that there is promised a better grain crop than for a number of years. The situation in Collins, Grayson, Denton, and Cooke Counties is much the same, except that the control by parasites has been much more complete, so that in many fields previously infested it is difficult to find any of the aphids.

Oklahoma Ernest E. Scholl (April 25): We have just assisted in conducting a very successful dusting experiment on greenbugs in the heavily infested greenbug field seven miles west of Stillwater in which nicotine dust was used. The results so far show 90 per cent mortality with no bad effects on lady beetles.

New Mexico W. E. Emery (April 3): This aphid is attacking certain varieties of fall wheat in Dona Ana County, doing considerable damage, spots being nearly entirely killed. About 60 per cent of the crop is damaged.

R. Middlebrook (April 11): Since writing you last, I note a heavier percentage of damage by the greenbug to the wheat, the increase being about 10 per cent, making the total damage 20 per cent in the several fields of wheat which I have under observation.

WHEAT STRAWWORM (Harmolita grandis Riley)

Missouri H. E. Roberts (April 6): In Jefferson County adults appeared more abundant about the straw pile than over the field, though generally distributed. Wheat followed wheat; the stubble was not

well plowed under. Infestation is moderate, compared with the average year. Adults are at large with no parasites. The weather is sunny and hot. (April 11): Three fields were examined at Pacific, Franklin County. Infestation is severe. Adults are at large, pinata form. The weather is sunny and warm.

Iiaho Claude Wakeland (April 16): Adults are emerging from old stubble of spring-planted wheat of 1922. The crop is damaged 55 per cent, by counting stems.

WIREWORMS (Elateridae)

Texas M. C. Tanquary (April 23): Mr. R. R. Reppert reports injury by wireworms to wheat and sorghums in west Texas.

GREAT PLAINS FALSE WIREWORM (Eleodes opaca Say)

Nebraska M. H. Swenk (April 18): The Great Plains false wireworm has again this spring shown considerable capacity for doing injury in the wheat fields. During the first week in April it was reported working in the wheat fields of Hitchcock County, some fields being very badly infested, and also in Perkins County, where in wheat fields that followed summer-fallowed land the false wireworms completely destroyed the plants, in the vicinity of Grant. The next week similar reports were received from Cheyenne County, where this pest spoiled many stands of wheat this spring. During the last week in March further reports of injury in the fields of Nance County, where trouble was experienced last November, were received.

CUTWORMS (species unknown)

Texas O. G. Babcock (April 17): Almost every bunch of grain, horehound, and many other weeds, as well as grass plots, at Sonora shows the presence of cutworms. Owing to heavy and cool rains, damage does not show as yet. No study has been made as to the parasitism of the worms.

MORMON CRICKET (Anabrus simplex Hald.)

Wyoming Stewart Lockwood (Telegram dated April 39): Reports that the Mormon cricket is hatching in serious numbers at Thermopolis, Wyoming, over an area of approximately 2,000 acres. The crickets are just hatching at this time.

Iiaho D. B. Whelan (April 16): Eggs are beginning to hatch in Franklin County.

CORN

TWELVE-SPOTTED CUCUMBER-BEETLE (Diabrotica 12-punctata Oliv.)

Louisiana T. H. Jones (April 2): At Baton Rouge a few young corn plants

have been noted that showed injury due to larvae. Larvae are very common at the roots of scattered volunteer oat plants in the same field. These larvae are of various sizes, some full-grown and preparing to pupate. As many as 55 larvae were found at the roots of one stool of oats.

BUDWORM (*Elasmopalpus viridescens* Fab.)

Georgia W. F. Turner (April 12): I have received reports that "budworm" damage to corn has been severe for the last two years. (Corn is not yet planted).

ALFALFA AND CLOVER

PEA APHID (*Illinoia pisi* Kalt.)

South Philip Luginbill (March 36): Parasites and predacious enemies
Carolina are not yet active at Columbia.

Florida F. S. Chamberlin (April 19): This insect is causing some damage to clover throughout the region of Quincy.

TARNISHED PLANT-BUG (*Lycus pratensis* L.)

Idaho Claude Wakeland (April 9): Adults were present in alfalfa crowns before they had really begun to show green. Adults probably hibernate in the soil in alfalfa fields.

ALFALFA WEEVIL (*Phytonomus pisticus* Gyll.)

Idaho Claude Wakeland (April 11): At Parma adults are feeding to some extent on growing alfalfa, which is now about 4 inches tall. Copulating pairs are abundant and a few fresh eggs are found in dead stems.

Nevada C. W. Creel (April 12): Alfalfa is from 2 to 4 inches high. Weevils are active and oviposition has commenced.

CLOVER-LEAF WEEVIL (*Hypera punctata* Fab.)

Illinois W. P. Flint (April 20): Larvae of Hypera punctata are still very small.

LESSER CLOVER-LEAF WEEVIL (*Phytonomus nigrirostris* Fab.)

Illinois W. P. Flint (April 20): Small numbers of the clover bud weevils have migrated to the clover fields, but not all of these insects have left hibernating quarters.

Indiana J. J. Davis (April 20): Adults are rather numerous this spring.

CLOVER-SEED CHALCID (Bruchophagus funebris How.)

Idaho D. B. Whelan (April 3): Injured seed found in recleaned seed was sent to the laboratory of the seed analyst from Ada and Canyon Counties. Recleaned seed shows less than 1 per cent injury.

CLOVER ROOT-BORER (Eylastinus obscurus Marsh.)

Idaho D. B. Whelan (March 30): In 1922 the first crop of clover hay from a field was 22 tons. At the second cutting there was not enough to cut. I visited the field March 30 and found very few plants growing. Some of these were injured but evidently had overcome the injury. Countless numbers of beetles were found in clover roots that died last fall. The locality of the infestation was Meridian, Ada County. The crop was damaged to the extent of 90 per cent.

GIANT SKIPPER (species unknown)

Illinois J. H. Bigger (April 1): A live larva was found hibernating in a stalk of sweet clover at Kinderhook.

A BYRRHID (Amphicyrta sp.)

California E. O. Essig (March 9): Last year adults of Amphicyrta were taken in the act of destroying a considerable amount of pasture vegetation, including grasses and weeds.

FRUIT INSECTS

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- New York P. D. Rupert (April 14): The larvae appear to have wintered well and can be found very readily in Dutchess County.
- P. J. Chapman (April 14): Larvae are numerous in Genesee County.
- Washington E. J. Newcomer (March 27): In the eastern part of this State December temperatures of 15° to 18° below zero killed from 25 per cent to 35 per cent of the wintering worms above the snow line. In spite of this there are at present many more live worms in orchards than usual, on account of the heavy infestation last year.

GREEN APPLE APHID (Aphis pomi DeG.)

- New York P. D. Rupert (April 16): In Dutchess County eggs are moderately abundant and general. (April 14): Present in large numbers over practically all of Dutchess County.
- G. E. Smith (April 6): Found abundant in two orchards in Orleans County.
- E. W. Pierce (April 14): The eggs seem to be rather abundant in Ontario County.
- P. J. Parrott (April 20): Hatching of the grain aphid has been observed at Geneva.
- Indiana J. J. Davis (April 20): The majority of aphids on apple examined are the apple-grain species. A few, 2 to 10 per cent, are Aphis sorbi, and exceptional individuals Aphis pomi.
- Idaho Claude Wakeland (April 10): Newly hatched young are collecting on terminal buds of apple trees at Parma, buds are bursting, and an occasional leaf is beginning to unfold.

APPLE-GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

- New York G. E. Smith (April 6): This species was found abundant in two orchards in Orleans County.
- T. C. Murray (April 11): Eggs are just beginning to hatch in Suffern, Rockland County.
- P. D. Rupert (April 14): Present in large numbers over practically all of Dutchess County. (April 16): Eggs are moderately abundant and general in Dutchess County.
- E. W. Pierce (April 14): The eggs seem to be abundant in Ontario County.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY SAMUEL JOHNSON, ESQ. VOL. I.

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- Indiana B. A. Porter (April 9): This species has hatched in large numbers.
- J. J. Davis (April 20): The majority of aphids on apple examined are the apple-grain species. A few, 2 to 10 per cent, are Aphis sorbi, and exceptional individuals Aphis pomi.
- Arkansas A. J. Ackerman (April 5): Newly-hatched aphids first were observed on March 30 at Bentonville. Only an occasional apple bud is open at this date.

ROSY APPLE APHID (Anuraphis roseus Baker)

- New York E. W. Pierce (April 14): The eggs seem to be abundant.
- P. D. Rupert (April 14): Present in large numbers over practically all of Dutchess County.
- G. E. Smith (April 6): Found abundant in two orchards in Orleans County.
- P. J. Parrott (April 25): The first appearance of newly-hatched nymphs has been noted at Geneva.

- Indiana B. A. Porter (April 9): This species has hatched in large numbers.
- J. J. Davis (April 20): The majority of aphids on apple examined are the apple-grain species. A few, 2 to 10 per cent, are Aphis sorbi, and exceptional individuals Aphis pomi.
- Idaho Claude Wakeland (April 7): Newly-hatched young are collecting on terminal buds of apple trees at Parma. Buds are just bursting.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

- New York R. F. Illig (April 16): A report has been received from Ontario.
- P. D. Rupert (April 16): Damage to some young orchards is very noticeable in Dutchess County.

APHIDIDAE

- Massachusetts A. I. Bourne (April 20): From Essex County, in the northeastern section of the State, a report which was made on the 11th of April stated that very few of the early stem mothers of plant-lice have been noted as having appeared on the buds. (April 23): In a letter from Pittsfield, in Berkshire County, it is reported that there appear to be fewer plant-lice eggs than normally are found. The weather has been so cold, however, up to the present time that no definite information can be secured. It is still too early for plant-lice to hatch in northeastern Essex County, as there are still no signs of buds breaking and leaves coming out.
- Indiana B. A. Porter (April 4): The first newly-hatched aphids have been observed at Washington.
- Washington E. J. Newcomer (March 27): Judging from the very small number of winter eggs which can be found, apple aphids will not be serious this spring.

FRUIT-TREE LEAF-ROLLER (Archips argyrospila Walk.)

New York

P. D. Rupert (April 16): A few egg masses have been observed on apple in Dutchess County.

E. W. Pierce (April 17): Eggs have been noticed in orchards in every section of Ontario County.

P. J. Chapman (April 14): Eggs have been observed in several orchards in Genesee County.

Idaho

Claude Wakeland (March 16): We have recently been making some egg counts on this insect, preparatory to experimental spraying, and find that in the orchard in question the average increase of infestation for the year is a little more than 360 per cent. On one tree only there was a decrease in the number of egg masses, and the extremes varied to as great an increase as 1,400 per cent. Our method of determining the rate of infestation and increase is to count all egg masses on a given branch or portion of a tree and to remove all eggs that have hatched on previous years. (March 30): Count of the egg masses on 11 trees at Lewiston showed an average of 28 old egg masses and 64 new egg masses per tree. The infestation this year is approximately 238 per cent of that of any previous year.

BRUCE'S MEASURING WORM (Rachela bruceata Hulst)

Washington

A. L. Melander (April 20): We have just received specimens from Tonasket in the Okanogan Valley of what was thought to be the bud moth. It proved, however, to be Bruce's measuring worm. This material was sent in by Thomas Thorson, who previously had sent specimens of last year's apples bearing stings very similar to those caused by codling moth larvae. His statement about the stings was that the stings were prevalent in unsprayed as well as in sprayed orchards, and were attributed to the summer generation of the bud moth. The measuring worm was now sent in as the spring generation of the bud moth. We have not been able to diagnose what is responsible for the stings on the mature apples, although the codling moth and the lesser apple worm are both present in his region. This is the first record we have in Washington of the occurrence of Bruce's measuring worm.

TENT CATERPILLAR (Malacosoma americana Fab.)

New York

P. J. Chapman (April 14): Eggs have been observed in several orchards in Genesee County.

E. W. Pierce (April 17): Eggs have been noticed in neglected orchards in Ontario County.

Massachusetts

A. I. Bourne (April 23): The apple tent caterpillar appears to be very scarce at Pittsfield, Berkshire County; few, if any, egg masses are to be found except on wild cherries or on scattered, uncared-for apple trees. A letter from northeastern Essex County reports "millions" of apple tent caterpillar egg masses, greater numbers than have been seen for years, and on April 19 one or two egg masses were found to be just beginning to hatch.

Georgia J. B. Gill (April 5): The first hatched egg-mass of the apple-tree tent caterpillar was observed on March 10 at Thomasville. In this section the nests are now commonly seen on wild plum and wild cherry trees.

Arkansas W. J. Baerg (April 1): Reported from Fayetteville on wild cherry as more abundant this year.

RED-BANDED LEAF-ROLLER (Eulia velutinana Walk.)

Pennsylvania S. W. Frost (April 23): The first adults of the red-banded leaf-roller issued April 16. Egg laying commenced on April 23. The eggs are now abundant in the orchards.

BUDMOTH (Tmetocera ocellana D. & S.)

Indiana B. A. Porter (April 24): Larvae noted feeding in unfolding leaves, at Vincennes.

SPRING CANKERWORM (Paleacrita vernata Peck)

Illinois W. P. Flint (April 20): Adults of the spring cankerworm have been observed on the wing on several days during the month.

FALL CANKERWORM (Alsophila pometaria Harr.)

New York W. T. M. Forbes (March 25): Heavy flight observed; also seen on various dates at Ithaca.

New Jersey T. J. Headlee and A. A. Lance (April 2): Numerous males and females have been observed in a wooded area at Bernardsville.

CLIMBING CUTWORMS (Lampra spp.)

Washington E. J. Newcomer (April 14): In the Yakima Valley these cutworms are much less numerous than last year, being of little consequence at this time.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York C. R. Crosby (January 28): Infested Rose Sweet apples have been received from Wayne County. (April 13): The entire crop in a large orchard at Hartsdale was ruined last fall.

TREE CRICKET (Oecanthus sp.)

Pennsylvania S. W. Frost (April 23): The punctures of a species of tree cricket were found abundantly in Franklin County. Many of the punctures are accompanied by a fungus infestation, probably fire blight.

SAN JOSE SCALE (Aspidictus perniciosus Comst.)

New York C. R. Crosby (April 6): Trees are badly infested at Lyons. (April 10): A small orchard is badly infested at Riverhead. (April 12): An orchard is lightly infested at Hartsdale.

A. L. Pierstorff (April 14): Abundant in most orchards in Chautauqua County.

P. D. Rupert (April 14): Very prevalent in many places and can be found in nearly every orchard in Dutchess County. (April 16): Moderately abundant in most orchards.

F. H. Bond (April 14): Has been reported in several well sprayed orchards in Oswego County.

P. J. Chapman (April 7): Does not appear to be very prevalent even in neglected orchards in Genesee County.

R. F. Illig (April 16): Has been reported from Sodus and Williamson.

E. W. Pierce (April 17): A little has been found in most orchards but it is not serious in well sprayed orchards in Ontario County.

Indiana

J. J. Davis (April 20): This insect continues as the most serious apple insect and is now extending its range of destructiveness to northern Indiana. It has a comparatively low winter mortality. Many growers are using the new lubricating-oil emulsion. Some are reporting trouble with this material. Apparently this is frequently due to the use of lime-sulphur barrels to contain the stock emulsion, or to tanks having been previously used for lime-sulphur. In other cases the emulsion was, apparently, improperly made or the water used to dilute the stock solution was of such a nature that it caused a separation. In our spray tests the miscible oils and the emulsion continue to give satisfactory controls, the dry and liquid lime-sulphurs being less satisfactory.

B. A. Porter (April 25): Winter mortality has ranged at Vincennes from 25 per cent to 65 per cent, depending mainly on condition of wood.

Arkansas

A. J. Ackerman (April 5): The San Jose scale has caused more damage to orchards of northwestern Arkansas in the last two years than any other pest during the history of apple growing in this section. A material reduction in the scale infestation in Benton County was effected with the dormant lubricating-oil emulsion spray applied last spring. During the dormant season of 1922-23 about 95 per cent of the orchards of Benton and Washington Counties have been sprayed with lubricating-oil emulsion for this scale.

Idaho

Don B. Whelan and Claude Wakeland (April 14): Apple trees are worst infested, but the scale is attacking many other kinds of fruit trees, shade trees and shrubs in Ger and Canyon Counties. Infestations this year are the worst that have occurred in years. Horticultural inspectors say 1922 was the worst year they have ever experienced in scale control.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Maine

B. Alexander (April 7): Trees of McIntosh red apple are nearly covered at Richmond.

- New York C. R. Crosby (March 7): Infested twigs have been received from Rochester. (April 2): Trees are badly infested at Hinckley. (April 9): At Cambridge apple trees are badly infested.
- R. F. Illig (April 9 and 12): Reports have been received of infestations at Sodus Point and Newark.
- E. W. Pierce (April 14): The oyster-shell scale is prevalent in most orchards in Ontario County. (April 17): Prevalent throughout the County.
- A. L. Pierstorff (April 14): Abundant in many orchards in Chautauqua County.
- P. J. Chapman (April 14): Generally prevalent in Genesee County.

EUROPEAN RED MITE (Paratetranychus pilosus Can. & Fanz.)

- New York C. R. Crosby (March 29): A specimen has been received from Binghamton.
- P. D. Rupert (April 16): Eggs are very abundant in Dutchess County.
- Pennsylvania S. W. Frost (April 23): Eggs of the red-spider are abundant in Adams County this spring. The first eggs hatched on April 21.
- Indiana B. A. Porter (April 25): Winter eggs fairly abundant in the vicinity of Vincennes, on apple and peach.
- Washington E. J. Newcomer (March 27): Winter eggs are much more numerous than usual in the Yakima Valley.

TARNISHED PLANT-BUG (Lygus pratensis L.)

- New York P. J. Chapman (April 14): Adults have been found hibernating under the bark of old apple tree in Genesee County.
- Illinois J. H. Bigger (March 27): Adults have just been seen flying out of hibernation near Jacksonville, Morgan County.

SHOT-HOLE BORER (Scolytus rufus Ratz.)

- New York C. R. Crosby (April 4): Apple trees are badly infested at Dansville.

THREE-CORNERED TREEHOPPER (species undetermined)

- Washington E. J. Newcomer (March 27): This undetermined species deposits winter eggs in the twigs of the apple, often severely damaging young trees. The hoppers, undoubtedly, feed on the cover crops and weeds.

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

- New York A. B. Buchholz (April 16): The first thrips was noticed on the buds at Hudson.

Oregon

E. J. Newcomer (April 6): This insect was first noted in the Walla Walla Valley in 1922; some damage was done, but it is not yet serious. On April 6, 1923, one or two adults were found on every open blossom, and some egg punctures were noted in the young fruits at Freewater.

PEAR PSYLLA (Psylla pyricola Foerst.)

Wagoner

New York

C. C. (April 4): Adults are out and mating is taking place at Milton and Highland. (April 10): Oviposition was observed for the first time at Middlehope and Marlboro.

P. D. Rupert (April 14): Adults are becoming active, and in some of the warmer orchards there is considerable oviposition. (April 16): Adults are very abundant in Dutchess County.

G. E. Smith (April 2, 6, 7): Adults came out on April 2 and were observed abundantly on the 6th and 7th in Orleans County.

R. F. Illig (April 5): First adults are out at Sodus.

E. W. Pierce (April 12): Adults were found active in Ontario County. (April 17): Quite abundant in the eastern part of Ontario County.

A. B. Buchholz (April 14): Egg laying has been abundant and active in some cases in Columbia County.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Oliv.)

Georgia

O. I. Snapp (March 31): These beetles are feeding considerably on peach blossoms, especially where the trees are near a garden. Damage has also been noted to the young terminal leaves of year-old pear and peach trees at Fort Valley.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia

O. I. Snapp (April 21): Results from paradichlorobenzene have been uniformly excellent in the Georgia peach belt this year. Great quantities were used and, from reports, all growers are well pleased with the results. Some few who failed to make the application last fall are trying spring treatments. These spring treatments were given about April 1.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia

O. I. Snapp (April): The number of adult plum curculios that survived the winter of 1922-23 in central Georgia is apparently very large. They are now appearing from hibernation in numbers. 51.7 per cent of the beetles confined in a hibernation cage, with Bermuda grass sod, on September 19, 1921, appeared from hibernation during March. The appearance of the beetles from hibernation in other cages during March was as follows: Dried leaves 46.5 per cent, Spanish moss 34.2 per cent, pine needles 29 per cent, trash 21.2 per cent, and bare soil 5.2 per cent. The winter has been mild,

with the exception of two periods of short duration. During one of these the minimum temperature recorded was 18°F. and during the other 23°F. (April 15): The appearance of beetles from hibernation cages, with various types of hibernating quarters, to April 15 inclusive was as follows: Bermuda grass 67 per cent, Oak leaves 61.5 per cent, Spanish moss 48 per cent, pine needles 38 per cent, sticks and trash 22.5 per cent, and bare ground (no hibernating quarters) 6.75 per cent. (April 21): The first larva of the season was found in peach on April 16, which is several weeks later than last year. This is undoubtedly due to the very cool spring, which has held back the development of the fruit and also retarded the appearance of the adults from hibernation.

Jarring records show that the curculio is much less abundant to date this year than last, and there is an enormous reduction as compared with 1921. The results of the three years of the curculio suppression campaign are now becoming very evident.

Louisiana T. H. Jones (April 4): The freeze of March 20 killed all fruit and bloom. Few eggs were noted today in fruit that has set since that date, and 1 adult was observed. (April 14): Fruit containing small larvae is common on trees today, but only a few "drops" have been noted.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Oliv.)

Georgia O. I. Snapp (March 31): These beetles are feeding considerably on peach blossoms, especially where the trees are near a garden. Damage has also been noted to the young terminal leaves of year-old pear and peach trees.

Wm. F. Turner (April 12): Very abundant in some orchards in Jasper and Morgan Counties, feeding on foliage; no real damage as yet. I fear severe injury to corn later.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia O. I. Snapp (April): Crawlers of the San Jose scale have been collected from peach trees near Fort Valley each month during the past winter. This proves that in the latitude of central Georgia some of the scale insects pass the winter in the full-grown stage.

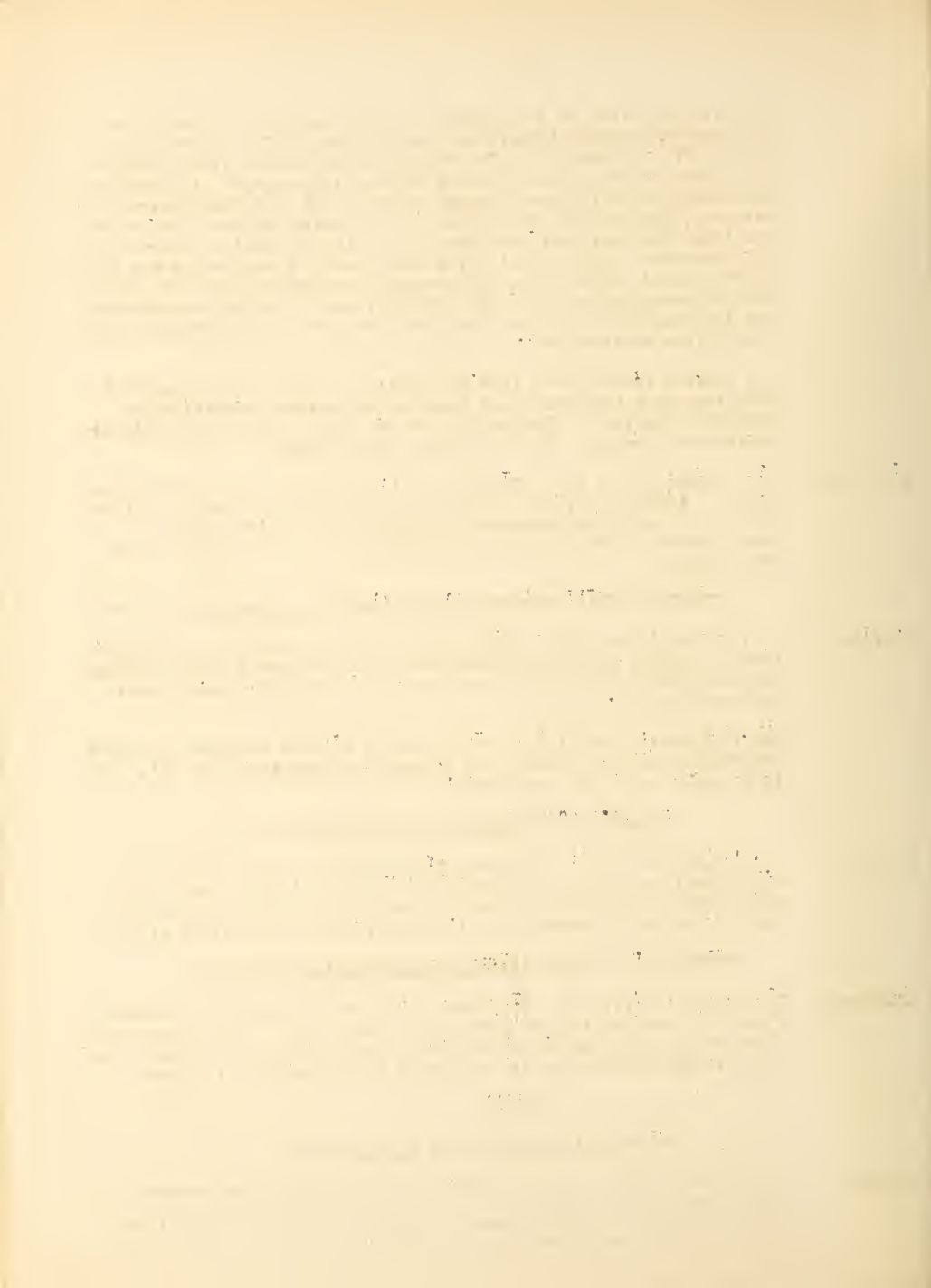
PEACH AND PLUM SLUG (Eriocampoides amygdalina Rohwer)

Louisiana T. H. Jones (April 4): The larvae of this sawfly did considerable damage to peach foliage at Baton Rouge last year. Adults have been noted to be common in the field today, resting on peach foliage, and what are apparently eggs are common on the undersides of leaves.

CHERRY

TERMITES (Reticulitermes flavipes Kol.)

Nebraska M. H. Swenk (April 16): The larger roots of several 3-year-old cherry trees which died last summer were being mined by termites in Franklin County - a rather unusual instance of insect injury that came to notice from March 10 to April 15.



PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia J. B. Gill (April 5): On March 27, while inspecting some plum thickets near Thomasville, I observed that egg punctures of the plum curculio were quite common on the small wild plums. On April 2 I had occasion to examine a good batch of wild plums, finding many eggs of the curculio in the fruit. Most of the eggs had not hatched at this time, but an occasional larva of considerable size was observed, indicating that some eggs must have been hatched for at least a week.

BROWN PLUM APHID (Hysteroneura setariae Thos.)

Georgia O. I. Snapp (April 10): The rusty brown plum aphid is very bad at the present time on plum trees in several home orchards around Fort Valley.

CURRENT

CURRENT APHID (Myzus ribis L.)

New York P. J. Parrott (April 19): Hatching of aphids has been observed at Geneva.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York J. B. Palmer (April 4): Part of one planting was killed out at East Bloomfield. (April 9): Bushes are badly infested at Ithaca.

C. C. Wagoner (April 6): The scale is present wherever observations were made along the Hudson River. (April 13): The scale is worse usually on Fay than on Perfection, and least on Wilders. Infestations have been found in Ulster County along the Hudson River.

PECAN

PECAN SHUCKWORM (Laspeyresia caryana Fitch)

Georgia J. B. Gill (April 5): Larvae of the pecan shuckworm have already been found attacking pecan buds and shoots.

PECAN BUD MOTH (Proteoteryx bolliana Sling.)

Georgia J. B. Gill (April 5): Larvae of the pecan bud moth have already been found attacking pecan buds and shoots.

PECAN CASE-BEARER (Acrobasis nebulella Riley)

Georgia J. B. Gill (April 5): Larvae of the pecan leaf case-bearer have been emerging from their hibernacula during the last 10 days and are now attacking the unfolding buds of certain important varieties of pecan, especially the Frottscher and Schley. Up to this date the larvae have not begun to attack the buds on Stuart trees, which

variety is one of the latest to put forth its foliage in the spring. Many pecan growers in this section sprayed their orchards for this insect during the late summer and early fall and they have succeeded satisfactorily in controlling this pest. According to our observations, some sprayed orchards will show more or less damage because of careless spraying.

The hibernating larvae of the pecan leaf case-bearer have been found to be highly parasitized by Secodella acrobasis Cwfd., which is considered a very effective parasite against this pest. Great numbers of adults of this species have been reared from material collected in this general locality. The adult parasites have also been observed frequently on pecan trees in the large orchards of Thomasville and vicinity.

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Georgia J. B. Gill (April 5): A few adults of the southern green stink-bug have been collected on pecan trees since the last week in March.

TWIG GIRDLER (Oncideres circulata Say)

Louisiana T. H. Jones (April 11): A correspondent from Dubach sent in twigs showing injury.

GRAPE

GRAPE LEAFHOPPER (Tychlocyba corymbosa Harr.)

New Mexico W. E. Emery (April 7): These insects were caught around the vineyard in Dona Ana County, more abundantly on the plant known as Marguerite.

GRAPE SCALE (Aspidiotus uvae Corst.)

Indiana J. J. Davis (April 20): Several reports from southern Indiana indicate the importance of this scale in some sections.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana J. J. Davis (April 20): From recent indications this insect will again be abundant and destructive the coming season. Our experience with the dormant sprays has shown that the insect can be thoroughly controlled by the use of miscible oils at standard strengths.

GOOSEBERRY

SAN JOSE SCALE (Aspidiotus perniciosus Corst.)

New York C. C. Wagoner (April 6): The scale is present wherever observations were made along the Hudson River in Ulster County. (April 13): A small amount of scale has been found on Columbia gooseberries in Ulster County along the Hudson River.

CITRUS AND SUBTROPICAL FRUITS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

- Texas T. C. Barber (April 5): At Brownsville damage is slight but increasing. Adults are plentiful in a few restricted localities where they are known to occur.
- Louisiana T. H. Jones (April 14): A few adults, the first of the season, were noted today on citrus trees heavily infested with the species at Baton Rouge.

PANAMERICAN PLATYPUS (Platypus compositus Say)

- Florida W. W. Yothers (April 5): It may be of interest to entomologists to know of a so-called outbreak of ambrosia beetles on orange trees last fall. The species was Platypus compositus, an account of which is given by Hubbard on page 14, of Bulletin 7, new series, of the Division of Entomology, "Some Miscellaneous Results of the Work of the Division of Entomology." The excessive rains last summer raised the water table in and around many groves in DeSoto County. This condition was very injurious to many citrus trees which were planted on the lower locations and, no doubt, has resulted in the death of some trees. The last of October and first of November there was considerable interest on the part of growers in the ambrosia beetles, which they claimed were killing their trees. An examination showed that the trees were really injured by excessive water and the beetles had come in as a secondary factor. In many of the trees the sap was fermenting at the time of the visit. We recommended immediate drainage and other measures to improve the health and growth of the trees. We also recommended painting of the bodies or trunks of the trees with undiluted fish-oil soap. It is not known to what extent the trees have died or what effect the recommendations have had upon the further attacks of the beetles.

COTTONY-CUSHION SCALE (Icerva purchasi Mask.)

- Texas T. C. Barber (April 5): Damage at Brownsville to citrus trees is slight at present. We have observed two restricted areas of infestation in this locality, but infestation is very light. They are particularly dangerous, however, in view of heavy recent plantings of young trees.

ORANGE BASKETWORM (Platocercitius gloverii Pack.)

- Florida W. W. Yothers (April 5): A serious outbreak of what I determined as the orange basketworm was reported to me. I understood from the reports that this had ruined a crop of Valencias. This pest usually follows beggarweed or some other legume, and since the damage had already been done before the report was sent in, no recommendations were given or experiments conducted.

PAPAYA FRUIT-FLY (Toxotrypana curvicauda Gerst.)

- Florida G. F. Moynette (April 5): This species has not been as abundant this past winter as during former winters, and, apparently, the excessive drought this past winter has had a decided influence on this species.

MANGO SHIELD SCALE (Coccus acuminatus Sign.)

Florida G. F. Moznette (April 5): This scale has been very abundant this past winter on mango trees, particularly where the trees have not been properly sprayed with the oil-emulsion applications during the winter. This is especially true in groves where Bordeaux spraying is generally practiced in the bloom which apparently promotes scale infestation by the friendly fungi.
destroying

DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi Morgan)

Florida G. F. Moznette (April 5): The Dictyospermum scale was abundant on Avocado trees in some nurseries.

PYRIFORM SCALE (Protopulvinaria pyriformis Ckll.)

Florida G. F. Moznette (April 5): This insect has played the usual amount of damage in avocado groves.

ORANGE LEAF-NOTCHER (Artipus floridanus Horn) and

CITRUS ROOT WEEVIL (Pachnaeus litius Germ.)

Florida G. F. Moznette (April 5): Has been very abundant in some localities doing some damage to the young growth of avocado trees in young groves. In some instances the young growth of young Guatemalan avocados was observed completely stripped and the weevils went so far as to gnaw severely into the young shoots.

AVOCADO LEAF-ROLLER (Gracilaria perseae Busck)

Florida G. F. Moznette (April 5): This leaf-roller is commencing to work in considerable numbers in young groves where trees are putting out a good spring flush.

AVOCADO BLOSSOM THRIPS (Frankliniella cephalicus Craw.)

Florida G. F. Moznette (April 5): During the latter part of March, as well as at this time of the year while the avocado is in full bloom and setting its fruit, this thrips has been exceedingly abundant, and in a number of localities has materially damaged the bloom. The Pollock and Trapp varieties and some seedlings resembling these varieties are especially subject to the work of this species. In some instances it is estimated that the damage to bloom is from 60 to 70 per cent.

AVOCADO LEAF THRIPS (Heliothrips haemorrhoidalis Bouché)

Florida G. F. Moznette (April 5): During the period when the avocado red spider is working, this thrips is also to be found in some sections of southern Florida which are favorable for it to carry on its depredations. These localities are situated generally near the ocean, bays, or inlet areas. Avocados growing on the keys are more generally attacked by this thrips. This species was abundant in the above sections during the past winter and the weather conditions apparently were likewise favorable. This thrips also contributes to the drain of sap from the dormant foliage and often weakens a tree.

AVOCADO LEAFHOPPER (Empoasca minuenda Ball)

Florida G. F. Moznette (April 5): This pest has been very abundant during the past winter, especially in those sections where proper spraying was not practiced. It likewise contributes to the drain on the dormant foliage of the avocado.

AVOCADO RED-SPIDER (Tetranychus yothersi McGregor)

Florida G. F. Moznette (April 5): This mite was unusually abundant in avocado groves in southern Florida during the past winter. This was due apparently to the excessive drought and generally ideal weather conditions favorable for its depredations during December, January, and February. During these months there was a total of 1.64 inches of rain. A number of groves in which control measures were not practiced showed a great deal of damage and the foliage was greatly scorched as a result of the work of this red-spider. It is essential that the dormant avocado leaves, laden as they are with stored-up plant food, should be protected from the ravages of mites, as it is this foliage which materially sustains the bloom and aids in the proper setting of the fruit.

AVOCADO WHITEFLY (Trialeurodes floridensis Q.)

Florida G. F. Moznette (April 5): This species is now making its appearance in avocado groves with the spring flush of growth.

COCONUT MEALYBUG (Pseudococcus nipae Mask.)

Florida G. F. Moznette (April 5): This mealybug, an enemy of the coconut palm in southern Florida, is likewise a serious avocado pest in some sections of southern Florida. It has been very abundant in southern Florida this past winter and is now working on the young growth. It also attacks the avocado at the stem end while the fruit is not setting and at times there is a considerable drop of fruit from its attacks.

TRUCK - C R O P I N S E C T S

POTATO

POTATO BEETLE (Leptinotarsa decemlineata Say)

Indiana J. J. Davis (April 20): The potato beetle is on the increase in the northern half of Indiana.

Louisiana T. H. Jones (April 2): Adults were found in the potato patch today at Baton Rouge and Denham Springs. This is our first record of their appearance in the field this year.

Texas F. C. Bishopp (April 23): Potato beetles appeared in considerable numbers during the latter part of March, but it is doubtful if they are more numerous than usual at Dallas.

FLEA-BEETLES (Halticinae)

California A. O. Larson (April 17): Flea-beetles are damaging young potatoes in the seed beds in the Chino section of California.

WIREWORMS (Elateridae)

California A. O. Larson (April 17): In the Chino section of California wireworms are doing considerable damage to potatoes and vegetables in general.

PEAS

PEA APHID (Illinoia pisi Kalt.)

California Roy E. Campbell (April 15): Practically the entire 2,150 acres of cannery peas in Stanislaus County are seriously infested with the pea aphid. For two weeks there has been a heavy flight of winged adults. Mild infestations are found on most of the peas in the Santa Clara Valley, and some late plantings are now becoming badly infested.

Kansas J. W. McCulloch (April 24): The pea aphid has made its appearance again in this State, and is causing damage to alfalfa in the vicinity of Topeka, Kans. A survey of conditions made yesterday showed that in one field approximately 20 acres are severely injured, and that the aphids are spreading to adjoining fields. Pea aphids were also noticed on garden peas near these alfalfa fields, and it is possible that there is some association between their presence on garden peas and the alfalfa. This is a rather large trucking district, and peas are grown quite extensively. Dr. R. C. Smith, who made the survey, was inclined to think that the damage to alfalfa might be associated with this, since we have had no other reports of pea aphid injury to alfalfa in the State this year.

SPINACH

APHIDIDAE

California Roy E. Campbell (April 15): All seven canneries in the Santa Clara Valley stopped canning spinach yesterday because there were so many syrphid larvae in the spinach which it was impossible to remove in the washing process, and have got into the canned product.

ARTICHOKES

ARTICHOKE PLUME MOTH (Platynotilia sp.)

California T. D. Urbahn (March 21): M. F. Barnes writes that worms are causing considerable alarm and damaging artichokes in the Arroya Grande district. Adults reared show it to be a plume moth, Platynotilia sp. Considerable parasitism has been noticed in material sent to the State insectary.

SOUTHERN FIELD - CROP INSECTS

TOBACCO

CORN-ROOT WEBWORM (Crambus caliginosellus Clem.)

Tennessee Official Record U. S. D. A., Vol. II, No. 14 (April 14): The occurrence of heavy infestations of sod webworms in tobacco fields during the past season has given an excellent opportunity for testing poisoned bait under field conditions, and it has been shown repeatedly that an ordinary unsweetened poisoned bait flavored with nitrobenzene is capable of bringing about a mortality of from 80 to 94 per cent of the larvae in heavily infested fields. The main species concerned were the tobacco Crambus and popaeanaella Clemens, although it was noted that several other species of Crambus larvae were present and were attracted to the bait.

GREEN JUNE BEETLE (Cotinis nitida L.)

Tennessee A. C. Morgan (April 19): This insect is reported ruining some beds of tobacco plants.

Kentucky A. C. Morgan (April 19): This insect is reported ruining some beds of tobacco plants.

BUDWORM (Heliothis virescens Fab.)

Florida F. S. Chamberlin (April 19): The tobacco budworm has begun to infest newly set tobacco. This pest is always present throughout the entire growing season in the southern cigar-wrapper district.

TOBACCO FLEA-BEETLE (Epitrix parvula Fab.)

Florida F. S. Chamberlin (April 19): Fewer overwintered flea-beetles have been observed this season than has been the case for the past several seasons. This is apparently due to effective control measures practiced by the tobacco growers this past year.

COTTON

WINGLESS MAY BEETLE (Phyllophaga sp.)

Texas M. C. Tanquary (April 23): Wingless May beetles, which did considerable damage to cotton in several places in Texas last year, are reported by Mr. R. R. Reppert as being present in numbers in northwest Texas near Plainview.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MARULLIS

NARCISSUS BULB FLY (Merodon equestris Fab.)

New York C. R. Crosby (March 3): Specimens have been received. This insect bores long tunnels through the bulbs, causing considerable damage. The determination was made by Dr. Johannsen.



HOUSE PLANTS

A BLACK-HEADED MAGGOT (Sciara hastata Johan.)

Nebraska M. H. Swenk (April 18): In a case of reported injury to house plants by small black maggots, the culprit when reared proved to be a Sciara, probably S. hastata Johan.

SCWBUG (Acanthididium vulgare Latr.)

Texas F. C. Bishopp (April 23): Reports of scwbug injury to young garden stuff and flowers have been received recently from Dallas.

TULIP

CUTWORMS (Noctuidae)

Idaho D. B. Whelan (April 6): Cut off tulips as fast as they come through the ground.

LILIES

W-MARKED CUTWORM (Noctua clandestina Harr.)

Indiana H. F. Dietz (April 18): The W-marked cutworm has been found in a small planting of Madonna lilies at Indianapolis, eating off the heavy flowering stalks, which are at this time about 6 inches high. The entire plant is therefore ruined for the season and a few insects can do serious damage all out of proportion to their numbers.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diathronomyia hypogaea F. Loew)

Indiana H. F. Dietz (April 23): A number of serious infestations of the chrysanthemum gall midge have been found in Indiana greenhouses during February and March. These have been the result of the buying of a large number of plants during the spring of 1922 on the part of Indiana florists. The plants came from widely separated parts of the United States and for the most part were new varieties. Most of the outbreaks occurred in greenhouses that had previously been freed of the midge and in which no midges were found in 1920 or 1921. Several cases, however, occurred in greenhouses that had never before been infested because the florists had not bought any stock since 1917, until the spring of 1922. All outbreaks this year were eradicated by spraying the plants with black leaf 40-1 fluid ounce; fish-oil soap, 4 ounces; and water, 4 gallons, every three days over a period of six weeks.

FOREST AND SHADE - TREE INSECTS

MISCELLANEOUS FEEDERS

GIPSY MOTH (Porthetria dispar L.)

Massachusetts A. I. Bourne (April 23): There appear to be fewer gipsy moths than during the last few years.

BROWN-TAIL MOTH (Euproctis chrysorrhoea L.)

Massachusetts A. I. Bourne (April 20): In regard to the brown-tail moth there is reported a heavier infestation along the Ipswich River and apparently a maximum abundance in the towns of Boxford and Ipswich. The general impression is that the pest is increasing markedly over the last few years. (April 20): One observer in eastern Middlesex County reported finding but three or four nests on 1,200 young bearing apple trees, which would indicate at least that the pest, in this particular section, does not promise to be as abundant as normally.

TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts A. I. Bourne (April 20): In the northern section of the county the tent caterpillar would appear to us possibly waxing more abundant every year, as one report states that infestation is discouragingly heavy, although in some sections not quite as bad as last year. It is impossible to state just how serious this will be this season, as none of the egg masses have hatched yet. In eastern Middlesex County the tent caterpillar is apparently holding its own, and, judging from the number of egg masses seen, will be fully as abundant as last year.

FALL CANKERWORM (Alsophila pometaria Harr.)

New Jersey H. B. Weiss (March 26): Adults are out in large numbers. Eggs are being laid on shade trees.

LARGER CHESTNUT WEEVIL (Balaninus proboscideus Fab.)

West Virginia Monthly News Letter, Bureau of Entomology, U. S. D. A., No. 107 (March, 1923): The life history of the larger chestnut weevil, Balaninus proboscideus Fab., is entirely different from that of the lesser chestnut weevil, B. algonquinus Casey, the beetles being present only for about two or three months in late summer and autumn.

LESSER CHESTNUT WEEVIL (Balaninus algonquinus Casey)

West Virginia Monthly News Letter, Bureau of Entomology, U. S. D. A., No. 107 (March, 1923): Mr. Fred E. Brocks, in charge of the French Creek, W. Va., station, communicates the interesting observation that beetles of the lesser chestnut weevil, Balaninus algonquinus Casey, are perpetually present on the trees during the growing season, the adults of one generation maturing in the ground before those of the preceding generation have ceased oviposition on the trees.

BOXELDER

BOXELDER PLANT-BUG (Leptocoris trivittatus Say)

Indiana J. J. Davis (April 20): Several reports have been received within the past month from housewives complaining of this insect. It has been unusually numerous in some localities.

Nebraska M. H. Swenk (April 18): The boxelder plant-bug has continued to be the subject of many inquiries during the period here covered - March 10 to April 15.

BOXELDER TWIG-BORER (Proteontervx willingara Kearf.)

Nebraska M. H. Swenk (April 18): Complaints of borers in boxelder trees were received.

WALNUT

BORERS

Nebraska M. H. Swenk (April 18): Complaints of borers in walnut trees have been received.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Idaho D. B. Whelan (April 9): This insect is reported from Godding.

ELM BORER (Saperda tridentata Oliv.)

Nebraska M. H. Swenk (April 18): Complaints of borers in elm have been received.

INSECTS AFFECTING DOMESTIC ANIMALS

CATTLE

HORN FLY (Hematobia irritans L.)

- Texas O. G. Babcock (April 17): The horn fly has been increasing in numbers during the past two weeks in west Texas. Prospects are good for a fairly heavy infestation next month.
- Texas D. C. Farman (April 26): Adults at Uvalde increased considerably up until the latter part of January and the freezes practically killed all of the adults present, but at no time were they entirely absent. The increase has been quite noticeable during the last two weeks, especially south in the sandy country.
- Texas F. C. Bishopp (April 23): During the last month there has been a steady increase in the number of horn flies on cattle. They are about normal in number at the present time, the average ranging in the neighborhood of 50 per animal in Dallas.

STABLE FLY (Storoxys calcitrans L.)

- Texas F. C. Bishopp (April 23): The stable fly has increased considerably in numbers in Dallas during the last month and is now very annoying to all classes of live stock.

BLACK BLOWFLY (Phormia regina Meig.)

- Texas F. C. Bishopp (April 23): The black blowfly is fully as numerous as is normal, and infestations of cattle following late dehorning are common. This species makes up about 80 per cent of the flies about abattoirs.
- O. G. Babcock (April 17): Several cases of wool maggots starting have been noted, following the wet weather that has prevailed for several days. The prospects are good for a severe outbreak in west Texas of this pest. Several sheep men are shearing now to avoid the trouble.

GREEN-BOTTLE FLY (Lucilia sericata Meig.)

- Texas F. C. Bishopp (April 23): This species has been comparatively scarce thus far this spring in Dallas. Only a few adults are seen about dead animals, and they constitute less than 5 per cent of the flies about slaughter houses.

SCREW WORM (Chrysomya macellaria Fab.)

- Texas D. C. Farman (April 20): Adults have been present all winter at Uvalde and cases of worms have been found in most herds at all times. Adults were abundant 60 miles south on February 13. The increase in adults has been very slight to date (April 20), on account of cool, wet weather and late freezes.

F. C. Bishopp (April 23): Adults are beginning to appear in considerable numbers in north Texas, but no cases of infestation of live stock have been reported. Around packing houses flies are numerous, this species making up about 10 per cent of the total.

OX WARBLE (Hypoderra lineatum DeVill.)

Texas F. C. Bishopp (April 23): Emergence of adults of this species appears to have been about normal, as indicated by cage tests this spring. The season for adult activity was apparently longer than usual. The development of the late-dropped larvae was probably held in check by the late spring. The last captured was on April 10, about 10 days later than normal.

WINTER TICK (Dermacentor albipictus Pack.)

Maine and F. C. Bishopp (April 23): Reports have come to the field Wyoming station of the Bureau at Dallas, Tex., of the occurrence in considerable numbers of the winter tick, or elk tick, on moose in the Penobscot (Maine) district, and on elk in the Jackson Hole (Wyoming) country. There has been some death loss among the herds in each case, and part of this may be attributed to lowered vitality due to gross infestation of this tick.

POULTRY

TROPICAL FOWL MITE (Liponyssus bursa Berlese)

New York R. Matheson (January 12): Found on plain Polish White hens at Ithaca, and at Closter, N.J.

CHICKEN MITE (Dermanyssus gallinae Redi)

Texas O. G. Babcock (April 17): In all hold-over infestations the common red or roost mite of chickens has increased in enormous numbers in west Texas. Sitting hens are practically driven off the nests. The outbreak is general.

F. C. Bishopp (April 23): About the usual amount of annoyance and losses in Dallas due to the presence of chicken mites is being felt this spring.

WING LOUSE (Lepeurus variabilis Nitzsch)

Texas O. G. Babcock (April 17): Very rare infestations of this pest are occurring in west Texas.



CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Texas O. G. Babcock (April 17): There is an average infestation of baby chicks in west Texas.

FLUFF CHICKEN LOUSE (Goniocotes hologaster Nitzsch)

Texas O. G. Babcock (April 17): Fairly common and numerous in west Texas.

SMALL BODY HEN LOUSE (Menopon pallidum Nitzsch)

Texas O. G. Babcock (April 17): Infestations of this pest are rather rare in west Texas.

LARGE BODY HEN LOUSE (Menopon biserialum Piaget)

Texas O. G. Babcock (April 17): Infestations are severe in untreated flocks in west Texas.

STICKTIGHT FLEAS (Echidnophaga gallinacea West.)

Texas D. C. Parman (April 20): The sticktight flea became very abundant at Uvalde in most poultry yards where precautions were not taken during the winter, but most of the heavy infestations have disappeared with the rains during the latter part of February, although some moderate infestations still persist to date in well-protected places.

F. C. Bishopp (April 23): The sticktight fleas are not as numerous as normal this spring, although a few complaints of losses among young chicks have been reported.

FOWL TICK (Arcas miniatus Koch)

New Mexico R. Middlebrook (April 11): "Blue bugs" on poultry are more numerous than usual.

GOATS

SUCKING GOAT LOUSE (Linognathus stenopsis Burm.)

Texas O. G. Babcock (April 17): A temporary decrease is noted in this species. Kids becoming well infested. No dipping is going on at the present time in west Texas.



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